PARKS BAR BRIDGE
(YUMA RIVER BRIDGE)
CALIFORNIA STATE HIGHWAY 20 SPANNING
the YUBA RIVER
SMARTVILLE VICINITY
YUBA COUNTY
CALIFORNIA

HAER No. CA-132

HAER
CAL
58-SMAVI.V,
1-

PHOTOCRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
NATIONAL PARK SERVICE
WESTERN REGION
DEPARTMENT OF THE INTERIOR
SAN FRANCISCO, CALIFORNIA 94107

HAER
CAL
58-SMAVI.V,
1-

HISTORIC AMERICAN ENGINEERING RECORD

PARKS BAR BRIDGE
(Yuba River Bridge)

HAER No. CA-132

Location: Spanning the Yuba River on State Highway 20, near Smartville (also called Smartsville), Yuba County, California

UTM: 10.644023.4342308
Quad: Smartville (7.5)

Date of Construction: 1913. Widened, railing modified, 1924.

Present Owner: California Department of Transportation
1120 N Street
Sacramento CA 95814

Present Use: Vehicular bridge.
Scheduled for demolition, 1993.

Significance: The Parks Bar Bridge is significant under Criterion C, as a distinctive example of an unusual method of construction. It is one of the earliest and largest remaining examples of the Thomas System of pre-cast, reinforced concrete, three-hinged arch bridges. This early 20th-century design and method of bridge construction was patented by William M. Thomas during his association with W. S. Post in their Los Angeles engineering firm of Thomas and Post. This is the sixth of approximately seventeen Thomas System bridges built in California, and one of only three remaining. The bridge was determined eligible for the National Register of Historic Places in 1986.

Report Prepared By: Bonnie Wehle Parks
Staff Architectural Historian
California Department of Transportation
District 3
703 B Street
Marysville, California 95901

Date: January 1993

PART I. DESCRIPTION

This structure is a pre-cast, reinforced concrete, open-spandrel, three-hinged arch bridge. The two-lane bridge is 22.1 feet wide, 685 feet long. The mainspan consists of four 140 foot arch spans carrying a cantilevered roadway. Each arch is made up of two arch ribs (or arch rings, as Thomas referred to them). There are five 12.6 foot approach spans on the north and three on the south. The bridge was widened from 16 feet to 22 feet and the pipe rail modified in 1924. Rock riprap was placed around the piers in 1952 and 1966.

PART II. HISTORICAL INFORMATION

Parks Bar

Parks Bar is located on the Yuba River, near Smartville (or Smartsville), California, about 18 miles east of Marysville on State Highway 20. The bar, thought to be one of the richest on the river, was named for David Parks who mined, and ran a trading post and store, at this location. Parks arrived at the location, with his wife and family in 1848, just after gold was discovered on the bar. While Parks returned east, after six months, spreading news of the discovery, his sons David and John stayed in California and became prominent citizens in Marysville.[1]

Parks Bar had become a thriving town by 1849. At its zenith in 1852, the population was about 800 and the town consisted of six stores, three hotels and several saloons in addition to the other usual businesses. By 1854, however, the town consisted only of one house and a "skiff ferry," the other structures having been consumed by the river as a result of hydraulic mining.[2] Hydraulic mining began near Timbuctoo, just east of Parks Bar, in 1854. Within a few years the debris had destroyed the mining claims downstream, including those at Parks Bar, where the original diggings were covered with seventy feet of it.[3] According to the bridge designer, William Thomas, by the time of the building of the bridge in 1913, the river had filled with debris to a depth of 125 feet.[4] Dredging and small-scale mining, carried on by

---

[1]Peter Delay, *History of Yuba and Sutter Counties, California*, Los Angeles: Historic Record Company, 1924. P. 211.
[2]William H. Chamberlain, *History of Yuba County, California*, Oakland: Thompson and West, 1879. P. 88.
[3]Aaron A. Gallup, "Historic Architectural Survey Report for the Parks Bar Bridge Replacement Project on state Route 20 in Yuba County," MS. California Department of Transportation, 1987. P. 3.
[4]W. M. Thomas, "The Thomas System of Three-Hinge Arch Bridges," *Southwest Contractor*, (April 4, 1914). P. 8.

individuals, continued into the 20th century, but the area never regained any of its former glory.[5]

William M. Thomas and the "Thomas System"

In the June 1908 issue of the *Architect and Engineer*, William M. Thomas, C.E. described what he called a "novel design for a three-hinge reinforced concrete bridge."[6] Thomas was employed as engineer for the Union Traction Company in Santa Cruz, California, and the bridge he described was that company's bridge over the San Lorenzo River in Santa Cruz. Still standing, although modified, it was the first of its kind in California, and one of the first in the United States. Shortly after the completion of this structure, Thomas went into partnership with W. S. Post, forming the consulting engineering firm of Thomas and Post. This firm designed about eighteen three-hinge arch bridges built in California, between 1909 and 1917, using what they called the Thomas System, based upon improvements on the techniques Thomas developed for the Santa Cruz bridge. One of these bridges was designed for Yuba County, to span the Yuba River at Parks Bar.

William M. Thomas was born in 1876 in St. Louis, Missouri. His father, John S. Thomas, was a successful architect, builder and inventor, holding over fifty patents. William graduated from St.Ignatius College, in Chicago, Illinois, studied architecture at the Chicago Art Institute for four years, and received private tutoring in engineering. He worked for a time as a structural engineer for the 1901 Louisiana Purchase Exposition in St. Louis, then as an architect designing a terminal for the Terminal Railroad Association of St. Louis. His first move west was to Tucson, Arizona, where he worked as a structural engineer for Southern Pacific Railroad, and later as bridge inspector for the Arizona Eastern Railroad.[7]

Thomas moved to California in 1906 and was employed by the Union Traction Company of Santa Cruz.[8] It was for this firm that he designed his first bridge in what he would come to call the "Thomas System." In 1908, he went into partnership, in Los Angeles, with W.S. Post, an engineer who had already established a good reputation in the area. The firm, Thomas and Post, specialized in the design of pre-cast reinforced concrete three-

[5]Gallup, p. 3.
[6]W. M. Thomas , "Novel Design of a Three-Hinge Reinforced Concrete Bridge," *The Architect and Engineer or California,* (June 1908) pp. A6-8.
[7]*Press Reference Library*, Vol. 1, NY: International News Service, 1913, p. 778; *Who's Who on the Pacific Coast*, Chicago: A.N. Marquis Co., 1949, p. 923; John Williams Leonard, *Who's Who in Engineering*, 1922-1923, New York: John W. Leonard Company, 1922, p. 1257.
[8]Leonard, *Who's Who in Engineering*, p. 1257.

hinge arch bridges. In 1912, Thomas married Cecilia J. Feenan, of Hollywood. His wife died in 1917, and her death seems to have been an event that precipitated important changes in Thomas' career. The next year he dissolved his partnership with Post and joined the U.S. Army Engineers Corps, where he attained the rank of captain. During his service in the Corps, he worked as an engineer at Morgantown, West Virginia and at the Frankford Arsenal in Philadelphia. After his discharge, he returned to Los Angeles and opened a practice under his own name. During his years of practice, Thomas built wharves, water filtration plants, and buildings, in addition to his bridges. He held sixteen patents for reinforced concrete constructions methods. The later years of his life were spent compiling data on reinforced concrete computations.

Thomas' arrival in California came right about the time that John B. Leonard began his practice in reinforced concrete construction engineering. Through his writing and practice, Leonard pioneered the acceptance of reinforced concrete as a safe, effective and economical building material in California.[9] Thomas' career paralleled Leonard's, both in the area of reinforced concrete construction and of bridge design and construction, with both submitting proposals on the same bridge jobs. However, while Leonard proposed fixed-arch bridges of monolithic reinforced concrete, Thomas proposed three-hinge arches made up of pre-cast members. Leonard was Associate Editor for Reinforced Concrete for the *Architect and Engineer of California*, a journal he used as a forum for his ideas and views on that material. Thomas' article, mentioned above, appeared in the June 1908 issue, so each was keenly aware of the other's work and opinions. Both men were strong advocates for their methods, and both very successful in producing bridges that have met the test of time in terms of both design and structural stability. What lively discussions and debates they must have had!

Thomas' major forum, however, was the *Southwest Contractor and Manufacturer* which carried numerous articles about new Thomas System bridges from 1910 to 1914. In a 1914 article for the publication, Thomas described his system and its evolution, discussing the changes wrought by past experience and the challenges of each new project. The Thomas System was comprised of several principles and methodologies. The first was the use of the three-hinge arch. This technology was not new to the world--there were quite a number of them in Europe--but it was rare in

---

[9] For a complete biography of John B. Leonard, see John W.Snyder, "Buildings and Bridges for the 20th Century," *California History*, Fall 1984; John W. Snyder, "The Bridges of John B. Leonard, 1905-1925," *Concrete International*, June 1984; or John W. Snyder, "Historic American Engineering Record, Gianella Bridge," California Department of Transportation, Sacramento, 1990.

the United States and untried in California using concrete. (There was at least one steel three-hinge arch bridge in California by this time.) Thomas patented his design with patent number 1,120,104. The patent described a concrete bridge made up of piers with flanged concave seats on each side. Pre-cast arch ribs, made up of two arch beams each, fit into the seats and were kept in place with the flanges. Each rib also had a crown hinge made from convex plates with recessed connections. The spandrel sections consisted of spandrel arches, posts and shouldered cross beams, connected by means of embedded bolts.

The Thomas System was described in a chapter on three-hinge arches, in *Reinforced Concrete Construction*, an engineering textbook by George A. Hool. While not listed as a chapter contributor, Thomas supplied nine photographs and a drawing of one of his bridges. According to Hool, the "most common form of arch hinge consists of a structural or cast-steel pin bearing on two steel castings."[10] Another, less common type, had two steel castings with ball and socket joints. The chapter calls Thomas' hinge unusual and describes it thus:

> The reinforcement of each section of arch rib is connected at the crown end to cylindrical plates of steel having a ball joint mated into a cup in the opposite rib. The lower hinge consists of a semicircular plate attached to the rib and a cast-iron shoe bolted to the pier or abutment.[11]

Thomas enumerated the advantages of the three-hinge design, in an article for the *Southwest Contractor and Manufacturer*.[12] Firstly, it avoided the excess concrete and steel reinforcement needed to take up the internal strains inherent in fixed arches since the hinges allowed the arches to adjust to temperature-induced linear extension and contraction, and settlement of abutments and piers. For this reason, it is also advantageous where seismic activity is a problem. Secondly, the construction methodology made the building of these bridges easier and less expensive. The arches were pre-cast, on the ground, on site, and lifted into position, as were the spandrel posts and floor slabs. The reinforcing was done according to Thomas' patented method, and consisted of "a steel articulated framework composed of straight members, so attached at their extremities so as to cause the structure to act as one rigid body."[13] The cost savings, he claimed, were as high as 30 per cent "over the conventional type of design using the

---

[10]George A. Hool, S.B. *Reinforced Concrete Construction*, Vol. III Bridges and Culverts, Second ed. New York: McGraw-Hill Book company, 1928, p. 287.
[11]Hool, p. 287.
[12]W. M. Thomas, (1914) pp. 8-10.
[13]Thomas, (1914) p. 9.

same unit stresses and to be tested with the same live loads."[14] Not enumerated by Thomas in the above list, was the use of caissons for building the piers, a technique he first tried on his third bridge, spanning the Santa Ynez River at San Lucas, California. Thomas was his own worst critic, and was constantly making refinements to the design; the article describing these principles was written after many of the bridges had been built and the design had gone through considerable evolution.

Thomas' choice of a three-hinge arch for his first bridge at Santa Cruz was made in consultation with W. S. Post, and was based on the fact that there was only gravel and quicksand, no bedrock, in this section of the San Lorenzo River for a depth of 60 feet. Because of its ability to adjust to settlement, they decided the three-hinge arch was the only practical solution. The arches were cast on the ground about a quarter of a mile from the location of the bridge, and getting them turned vertical and transported to the bridge proved expensive. Once the arch ribs were in place, the forms were bolted on and the diaphragm walls (this one was not an open-spandrel), spandrel piers and floor system were run in place, monolithic on the structure. Thomas decided this system needed improvement for economy.[15]

One year later, the firm of Thomas and Post, proposed a Thomas System, open-spandrel bridge of six 103-foot spans to San Diego County for the crossing of the San Luis Rey River near Oceanside. This time the arch ribs were cast in a location and position that facilitated lifting them in place. The spandrel members were cast separately, but the concrete floor was still run monolithic in forms bolted to the arch rings and spandrels. Thomas still felt improvements could be made to the system.[16]

For his next bridge, over the Santa Ynez at San Lucas Crossing in Santa Barbara County, California, in 1911, Thomas improved his system by pre-casting the arch beams, spandrel sections, and floor beams as units and assembling them, then bolting the forms for the floor system to the spandrel sections and floor beams, and running the floor monolithic. This improvement used less formwork. It was also on this bridge that he first used caissons for building the foundations for the piers.[17]

The fourth Thomas System bridge was built over the Kern River at Bakersfield, in Kern County, California, also in 1911. Thomas described the erection of this bridge as follows:

---

[14]Thomas, (1914) p. 10.
[15]Thomas, (1914) p. 8.
[16]Thomas, (1914) p. 8.
[17]Thomas, (1914) p. 8.

> ...the concrete caissons were built as units and sunk into place. The arch ribs, as well as the spandrel sections and floor domes were also units. The main carrying beams were then run in place after the other members had been assembled. The concrete rail was then cast into members 6 ins. square on the deck of the bridge. The posts were cast monolithically in place, thus tieing [sic.] the rail together.[18]

Three Thomas and Post-designed bridges were built or begun in 1912: the Ventura River Bridge at Rincon Road in Ventura; the Santa Ana Bridge at Fifth Street in Santa Ana; and the Parks Bar Bridge in Smartville, Yuba County, actually completed in 1913, and the subject of this documentation. Thomas apparently felt that he had perfected the technology for his system upon completion of the Kern River Bridge, as he noted no additional innovations on the subsequent bridges described in the *Southwest Contractor and Manufacturer* article. A list of Thomas and Post bridges follows this narrative.

Parks Bar Bridge

The present bridge at Parks Bar is at least the sixth bridge to span the Yuba River at this location. The first attempt to build a bridge here was in 1851; the structure was swept away by high water before it was even completed. In 1853, a "low water" bridge was constructed, but it, too, was flooded out. Then, in 1859, Matt Woods built a bridge of 20,000 pounds of tubular steel, which collapsed later that same year. About a year later, Woods and Vineyard built a suspension bridge, which was washed away in 1862.[19] Between 1862 and 1886, there appears to be no historical record concerning the bridge(s) at this site. Clearly, however, this was not an easy place to try to build a bridge.

The bridge previous to the present one was constructed in 1886. It was a steel truss bridge built by the San Francisco Bridge Company for $17,000. The two span structure was about sixty feet high and 600 feet long. In the years just preceding the construction of the concrete bridge, periodic inspections of the steel truss were reported in the newspaper, and reflect what appear to be self-serving interests on the part of construction companies and some supervisors. In 1905, the bridge was inspected by the Pacific Construction Company, found to be in dangerous condition, and in need of immediate repairs. The inspecting company was then awarded the contract to complete the repairs.[20] A

---

[18]Thomas, (1914) p. 9.
[19]*History of Yuba County, California*, Oakland: Thompson and West, 1879, p. 88; *Appeal-Democrat* (Marysville) Jan. 23, 1960.
[20]*Daily Appeal*, (Marysville) Mar. 7, 8, 1905.

1908 inspection indicated the repairs were holding; the bridge was deemed sound.[21] By 1910, however, the structure was again judged to be dangerous, and the county supervisors began talking of constructing a new bridge. A dissenting supervisor then called in a bridge expert, Charles Ross, for an independent inspection. Ross found the bridge to be in good condition, but needing some minor repairs.[22] In June of 1912, the bridge was again pronounced unsafe for travel. The supervisors awarded a contract for a new bridge in September.[23]

The call for proposals for the Parks Bar Bridge, put out by Yuba County, called for a monolithic concrete bridge of the conventional type. They soon learned, however, that a monolithic concrete bridge would cost around $65,000.00, far in excess of their $38,000.00 budget. So, according to Thomas, the county supervisors called him in. He visited the site and drew up the plans "...after having been repeatedly asked not to use anything new, that had not been used in other bridges."[24] The construction contract was awarded to the Portland Concrete Pile Company. But this was not to be a simple project. Plagued with problems, the construction of the Parks Bar Bridge was to take one and one half years to complete and run in excess of $30,000.00 over budget.

The first trouble came when County Surveyor, Leslie Crook, said he would not supervise the project because he did not approve of the specifications. He told the supervisors that, while some claimed his refusal was because he had favored a steel bridge over a concrete one, he had no objections to a concrete structure so long as it was to his plans. He also claimed the bridge was too low and predicted it would be damaged by debris during high water.[25]

Next, Ross Construction Company, an unsuccessful bidder, threatened suit over the company's rejection. Ross claimed the county should pay him $500, the cost of drawing up the rejected plans. When this tactic failed, he claimed that the bidding process had been incorrectly handled. County law required advertising for bids for two weeks, but this one had only been advertised for ten days. The supervisors debated about invoking an emergency clause allowing them to let the contract without advertising, but decided against it. Instead, they re-advertised. This time Ross did not even bid, and the contract was re-awarded to the same company, for several thousand dollars more. The cost hike was due in part to the work stoppage and in part to the fact

[21]*Daily Appeal*, (Marysville) Sept. 10, 1908.
[22]*Daily Appeal*, (Marysville) June 16, Sept. 5, 1912.
[23]*Daily Appeal*, (Marysville) July 7, Aug. 3, 1910.
[24]Thomas, (1914) p. 9.
[25]*Daily Appeal*, (Marysville) Sept. 17, 1912, p. 4.

that they had discovered that bedrock was about thirty feet below the surface and they would have to drive piles, rather than setting piers. The new advertisement also called for raising the bridge five feet, answering County Surveyor Crook's objection.[26]

Also, in October, the Carpenters Union of Marysville protested to the Board of Supervisors that the contractor was using non-union carpenters and paying them below-union wages.[27] Unfortunately, work had to cease while all this went on, causing the first of several delays and losses. Meanwhile, too, the old bridge had been demolished, so the river could not be crossed other than by fording during low water.[28] During a period of high water in December, the residents of Smartville complained to the Board of Supervisors that they were isolated by their inability to cross the river. They requested a temporary bridge be built.

The residents were not the only ones inconvenienced by winter rains. The work stoppage necessitated by the contract dispute, was protracted by the high water. Work on the bridge did not resume until January.[29]

Once work resumed, the contractor informed the Board of Supervisors that while Thomas and Post had furnished the plans for the bridge, they failed to supply working drawings. These were now urgently needed. The supervisors instructed the clerk to request them at once.[30]

The contract had stipulated that Thomas be the engineer in charge, under the general supervision of County Surveyor Crook. By mid February, when Thomas came to inspect the work, he found a tent city at the site, two caissons ready for sinking, one abutment in place, the framework up, and the steel piling on the ground. He told the Board of Supervisors that he felt Crook could handle the oversight as well as he could, and suggested he be put in full charge. Crook was then to devote the major portion of his time to supervising the construction of the bridge. The specifications were adjusted.[31]

A newspaper article in August reported that fifty to sixty men were constantly on the job. It also spoke of the difficulty of sinking the piers to a solid foundation.[32] Piles had to be driven

---

[26] *Daily Appeal*, (Marysville) Oct. 3, 1912, p. 1.
[27] *Daily Appeal*, (Marysville) Oct. 9, 1912, p. 1.
[28] *Daily Appeal*, (Marysville) Oct. 3, 1912, p. 1; Oct. 17, 1912, p.1; Oct. 18, 1912, p. 1; Nov. 26, 1912, p. 1.
[29] *Daily Appeal*, (Marysville) Dec. 20, 1912, p.1; Jan. 3, 1913, p. 1.
[30] *Daily Appeal*, (Marysville) Jan. 30, 1913, p. 1.
[31] *Daily Appeal*, (Marysville) Feb. 13, 1913, p. 1.
[32] *Daily Appeal*, (Marysville) Aug. 6, 1913, p. 5.

through thirty feet of gravel to bedrock. By October they were predicting the bridge would be open to travel in five weeks; only two more arch rings remained to be placed. The latest delay had come with the collapse of a Sacramento Northern Electric Railway bridge, which postponed a shipment of concrete from Sacramento.[33] By early November, the only remaining work was the railings and the approaches. The county supervisors scheduled an inspection tour in the first week, anticipating completion on the 10th. They had to decide whether they wanted the bridge extended, or the earth-filled approaches.[34]

By November 18, however, there were still no approaches and the opening date had been postponed to the 22nd.[35] On the 29th, a front page headline read: "County Bridge Proves White elephant." The article reported that the while the bridge was completed, it stood eighteen to twenty feet above the roadway, and remained without approaches. (The completed bridge in this condition, without connections to the roadway, is depicted in photographs number 51 and 52.) A dispute had arisen between the contractor and the Board of Supervisors as to whose responsibility the building of the approaches was. While the Board of Supervisors was under the impression that the contractor was to construct them, the contractor maintained that he had bid on the main structure only, as per the plans and specifications, which did not include approaches.[36] The contractor got a legal opinion in his favor but the Supervisors held firm to their interpretation of the contract; the dispute continued. The supervisors inspected the completed bridge, without approaches, in early December and accepted it as being satisfactory and according to plans and specifications. The question of the approaches, they said, would be settled soon.[37] The settlement was by compromise; the contractor would pay the county $875.00 toward the construction of the approaches, and the county would construct them. The county planned to use the fill method with dirt from the adjacent road construction.[38]

With the bridge accepted and the county in charge of the approaches, the contractor was given his final payment in mid-January of 1914. The supervisors were well pleased with the structure, calling it "one of the finest in the county."[39] However, their troubles were not over. Before the county could construct the approaches, the supervisors needed to secure right

---

[33] *Daily Appeal*, (Marysville) Oct. 7, 1913, p. 1.
[34] *Daily Appeal*, (Marysville) Nov. 5, 1913, P. 1.
[35] *Daily Appeal*, (Marysville) Nov. 18, 1913, p. 1.
[36] *Daily Appeal*, (Marysville) Nov. 29, 1913, p. 1.
[37] *Daily Appeal*, (Marysville) Dec. 6, 1913, p. 1.
[38] *Daily Appeal*, (Marysville) Dec. 10, 1913, p. 1.
[39] *Daily Appeal*, (Marysville) Jan. 16, 1914, p. 1.

of way from one Steven Harriman, but Harriman was denying he had ever agreed to sell it. Meanwhile, about a month after the final payment to the contractor, one buggy crossed the new bridge by putting planks across the gap of the unfinished approach. The paper cajoled that the bridge had "gained fame throughout the county owing to the length of time which [had] been consumed in its construction."[40]

Harriman granted the county the right to build one day before his death, leaving it to his estate to sign over the deed. Finally, on March 31, 1914, the front page headline read: "Extra, Extra! Bridge Open." The article, with unrestrained sarcasm, began: "The eighth wonder of the world will creep into existence today in the form of the Parks Bar Bridge being open for traffic."[41] The bridge had taken over a year and one half to build and the contractor had lost about $30,000.00 on the job.

The lengthy construction process was documented in photographs (see photos 32-54, attached). The photos appear to indicate that the arch ribs were cast in forms supported on falsework at or near the point of insertion into the joints. This is a deviation from Thomas' description of casting the ribs on the ground and lifting them into place. This apparent change in methodology may be due to constraints inherent in the site, or to Crook serving as the engineer in charge of the project.

According to Thomas, several other Thomas System bridges were subsequently built in Yuba County. No record of any others was found, however, and none remain.

In 1924, the road on which the bridge was located was taken into the state highway system and designated part of the Tahoe-Ukiah Highway. As such, the highway had to be upgraded and the Parks Bar Bridge brought up to State Highway Commission specifications. This necessitated widening the bridge from sixteen to twenty-one feet. The county took the responsibility for the bridge widening in exchange for the highway being made part of the Tahoe-Ukiah Highway.[42] They let a contract to Noble Brothers of Visalia, for $26,500. The work was done in the summer of 1924.[43] (The bridge roadway was widened to twenty-one feet, the total width of the structure was brought to twenty-two feet.) When the bridge widening was completed, the State Highway Commission upgraded the road. They took over ownership of the bridge in July 1925, after the completion of the highway upgrade.[44]

---

[40]*Daily Appeal*, (Marysville) Feb. 17, 1914, p. 1.
[41]*Daily Appeal*, (Marysville) Mar. 31, 1914, p. 1.
[42]*Daily Appeal*, (Marysville) Feb 20, 1924, p. 1; May 6, 1924, p. 1.
[43]*Daily Appeal*, (Marysville) June 26, 1924, p. 1.
[44]*Daily Appeal*, (Marysville) July 25, 1925.

Eligibility

The Parks Bar Bridge was determined eligible for the National Register of Historic Places in 1986 as part of the California Bridge Inventory. It is significant under criterion C as a distinctive and unusual example of a method of construction. The bridge possesses high integrity of location, setting workmanship, feeling, and association. It has a minor loss of integrity of design due to the change to its railing. It also has some loss of integrity of workmanship at the level of the piers where they have had to be reinforced because of hydraulic undermining. However, all of the essential engineering elements of the bridge remain intact. The bridge is the last remaining of the major Thomas System bridges in California. It typifies Thomas System bridges in the state, and is representative of early 20th-century experimentation with reinforced concrete building technology. This bridge may be considered to be the master work of the engineering firm of Thomas and Post. It is scheduled for demolition in 1993.

PART III. LIST OF KNOWN THOMAS SYSTEM BRIDGES IN CALIFORNIA

1908*	Water Street Bridge	Santa Cruz, Santa Cruz Co.
1910	San Luis Rey River Bridge	near Oceanside, San Diego Co.
1911	Santa Ynez River Bridge	San Lucas Crossing, Santa Barbara Co.
1911	Kern River Bridge	Bakersfield, Kern Co.
1912	Fifth Street Bridge	Santa Ana, Orange Co.
1912	Ventura River Bridge	Ventura, Ventura Co.
1913#	Yuba River (Parks Bar) Bridge	near Smartville, Yuba Co.
1913	Santa Anita River Bridge	near Monrovia, Los Angeles Co.
1913	Sacramento River Bridge	Redding, Shasta Co.
1914	Ash Slough Bridge	Chowchilla, Madera Co.
1914	First Slough Bridge	south of Berenda, Madera Co.
1914	Second Slough Bridge	south of Berenda, Madera Co.
1914	Borden Bridge	Cottonwood Creek, Madera Co.
1914	Patterson Road Bridge	Cottonwood Creek, Madera Co.
1914	Dunsmuir Bridge	Dunsmuir, Siskiyou Co.
1916	Gaviota Creek Bridge	Santa Barbara Co.
1916	Gaviota Creek Bridge	Santa Barbara Co.
----#	Bridge, Forest Service Rd.	San Diego Co.

* Extant but modified. This is the first bridge Thomas designed and is not actually of the Thomas System since it is a closed spandrel arch.

Extant

PART IV. SOURCES OF INFORMATION

"A Reinforced Concrete Bridge Built in Sections on the Ground," *Southwest Contractor and Manufacturer*. Mar. 4, 1911.

Appeal, (Marysville, California) Mar. 11, 1886.

Appeal-Democrat, (Marysville, California) Jan. 23, 1960.

Chamberlain, William H. *History of Yuba County, California*. Oakland: Thompson and West, 1879.

Daily Appeal, (Marysville, California) Mar. 7, 1902; Mar. 8, 1905; Sept. 10, 1908; July 7, 1910; Aug. 3, 1910; June 16, 1912; Sept. 5, 17; Oct. 3, 9, 17, 18; Nov. 26; Dec. 20, 1912; Jan. 3, 30; Feb. 13; Aug. 6; Oct. 7; Nov. 5, 18, 20, 29; Dec. 3, 9, 10, 11, 1913; Jan. 16; Feb. 20; Mar. 4, 18, 31, 1914; Feb. 20; May 6; June 26, 1924; Feb. 25; July 25, 1925.

Delay, Peter. *History of Yuba and Sutter Counties, California*. Los Angeles: Historic Record Company, 1924.

Gallup, Aaron A. "Historic Architectural Survey Report for the Parks Bar Bridge Replacement Project on State Route 20 in Yuba County." MS. Sacramento: California Department of Transportation, 1987.

Leonard, John William. *Who's Who in Engineering*. New York: John W. Leonard Co., 1922.

Press Reference Library, Vol. 1. New York: International News Service, 1913.

Snyder, John W. "Buildings and Bridges for the 20th Century," *California History*. Fall 1984.

____________ "The Bridges of John B. Leonard, 1905-1925," *Concrete International*. June 1984.

____________ "Historic American Engineering Record, Gianella Bridge," California Department of Transportation, Sacramento, 1990.

Thomas, Wm. M. "Novel Design of a Three-Hinge Reinforced Concrete Bridge," *The Architect and Engineer*. June 1908.

____________ "The Thomas System of Three-Hinge Arch Bridges," *Southwest Contractor and Manufacturer*. April 4, 1914.

____________ "Santa Ana Reinforced Concrete Arch Bridge," *Western Engineering*. Oct. 1913.

Who's Who on the Pacific Coast. Chicago: A. N. Marquis Co., 1949.